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The EXTENSION ANIMAL HUSBANDMAN

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THE EXTENSION ANIMAL HUSBANDMAN

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C. D. Lowe, Senior Extension Animal Husbandman,
K. F. Warner, Senior Extension Meat Specialist.

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IMPROVEMENT OF CALIFORNIA LIVESTOCK THROUGH BREEDING

By Louis H. Rochford, Extension Specialist in Animal Husbandry,
University of California.

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Necessity of meeting market competition is perhaps the greatest incentive for the breeding of better livestock. For a number of years heavy shipments of California spring lambs have been competing in discriminating eastern markets. This promoted steady progress in selective breeding to produce a quality lamb that could stand strong competition from other areas.

Until recently the situation as regards California cattle and hogs has been quite different from that of lambs. Very few California cattle and practically no hogs have been shipped eastward. Local markets not so long ago could not be called particular as to demand for quality and finish. Gradually but steadily, however, the cattle and hog market picture here has changed. In the past, grass or hay-fed cattle satisfied the local market, heavy cattle were preferred, and little or no premium was paid for superior quality and finish. In recent years younger cattle of better quality and more finish command a premium; likewise, demand for better quality and finish has definitely been found in the hog markets in this State. Nearly all cattle and hog producers are now aware of the change in their market demands and many are shifting their production practices accordingly. Market-swine improvement can and has been easier and more rapid than that shown with cattle. This is because it is a simpler matter to change breeding, feeding, and management practices in swine production than it is to shift cattle production methods, especially range cattle enterprises.

In considering that phase of the program which relates to improved breeding of livestock, we have tried always to adhere to the following principles:

(1) Better feeding, management, and marketing practices must be simultaneously promoted if material benefit is to be derived from improved breeding.

(2) In determining breeding programs, environmental conditions for production must be recognized as well as market demand. In other words, while the producer cannot ignore market demand, neither can he be governed solely by market demand in his breeding program. For example, the market may desire nice, trim, tidy beef cattle with small bones. If the producer goes too far in this

direction, he is apt to have animals that will not efficiently utilize his feed and will not produce economical gain. On the other hand, if he breeds big, rough, slow-maturing cattle, they may use coarse feeds quite efficiently, produce good gain, but by the time they are fat they would be hard to sell.

Due to the greater and more numerous problems and because cattle have a greater economic importance in California than other meat animals, our extension program on beef cattle improvement has had first attention.

Cattle grading demonstrations have been quite extensively used in all of the most important cattle producing sections of the State to serve as forerunners to later result demonstrations. The grading demonstrations are conducted on commercial herds with breeding cattle and with feeder and fat classes. In the demonstrations with breeding cattle, cows, heifers, and range bulls are segregated into two groups according to type and indications of breeding qualities. Feeders and fat cattle are classified according to market grade. We have found that these grading demonstrations are quite effective in stimulating interest in breeding programs and better sorting of cattle before offering for sale, and have paved the way for result demonstrations with some very good cooperators. Weight-estimating contests among stockmen in attendance have been popular at such demonstration field days.

Selective Breeding and Culling

In 16 counties the county agents are cooperating with commercial cattle operators on detailed programs wherein the breeding herd is systematically culled each year. Wherever possible the cow herd is worked at weaning time to avoid extra handling of cattle and because at that time the producing qualities of the cows are more evident. The program calls for segregation of culled cows and heifers and identification such as tail bobbing if they are to be held for some time before sale. If held through the next grass season the culls are placed in a separate pasture or field, not rebred, and thus considerable bull expense is saved. Usually the calves are vealed and cows sold later. Where practical, the program has also included the selection of top cows for mating with top bulls, with replacement heifers saved from such mating.

In many range herds, excellent aged bulls which still have much usefulness are customarily sold because their age makes them undesirable for service on rough or large ranges. On the cooperating ranches where such bulls are found, effort is made to provide a special breeding field and to retain the bulls for longer service. For example, on one ranch in 1938 the two evidently top bulls of a

herd of 18 range sires were six years old. They were each placed with 50 selected cows in special meadow breeding fields. In 1939 the 100 cows involved dropped 97 typy calves of uniform quality and age. As 7-year-olds, the bulls were again mated with 50 cows each and have again apparently given excellent service. If the customary range practice of selling bulls had been followed, these two sires would have been slaughtered in 1938, their greatest usefulness lost, and bull expense for the herd increased.

In the northeast part of the State where interest and need of improving the breeding herds is greatest, the Animal Husbandry Division of the University has loaned six Hereford sires to stockmen cooperating in the selective breeding and culling project. This has aided the extension program and also affords further information on the University breeding herd.

In nine counties the county agents are carrying on similar programs of selective breeding and culling with sheep cooperators, and also in nine counties comparable programs are under way with swine producers.

Individual Performance Records

With a reasonable amount of experience any stockman who has normal livestock talent can pick a really good animal from a very poor one. Others can go much further and without any great mistake classify breeding animals according to their usefulness or, with still less error, can select livestock according to market grades. In registered herds the ordinary pedigree is an additional aid if judiciously used in connection with close scrutiny of the individuality of the animal. By these means much progress has been made here as elsewhere, with all breeds of beef cattle, sheep, and swine, and great credit is due to those splendid breeders who have devoted their lives to constructive and persistent programs of livestock improvement. Now, however, some of the breeders in our State as well as commercial herd operators are beginning to realize the limitations of the methods customarily employed when it comes to selecting really outstanding breeding animals which possess the ability of transmitting superior usefulness to their offspring and which may be worth far more than other individuals that appear to be as good and have similarly attractive pedigrees. They have watched the progress made with dairy cattle through the use of production records. The few available records of performance with meat animals have indicated equal possibilities. While we all recognize the problem of finding a practical and accurate measuring stick and a suitable method of procedure in obtaining satisfactory performance data on meat animals, a small start has been made in this State. Although future years will perhaps show our present methods to be crude, we believe a step has been made in the right direction.

Beef Cattle--In three registered beef-cattle herds the cows and herd sires have been graded and described, with information recorded on individual cards. All calves are weighed and graded at weaning time and at six month intervals thereafter. Any animals sold before maturity are weighed at time of sale. The record card shows tattoo number of the individual, registration numbers of sire and dam, date of birth, age at weaning, weight and grade record, and provides space for checking pertinent data relating to feed conditions and care, outstanding characteristics and marking, and record of sale. Weaning weights are considered to be a valuable aid in checking comparative milking qualities of the dams. In two of these herds where several sires are involved, first-year summaries have been made and the get of two sires are beginning to show up as superior in both grade and weight for age.

In one herd where registered cows and several sires are used for the production of calves to be fed for market, the cooperator tags the calves according to sire and records their feedlot gains.

Further to focus interest in beef-sire performance a special class was provided for the first time at the 1939 California State Fair. In this class, California producers could make entries of 10 head of steer or heifer feeder calves which were the get of one registered bull. Each exhibitor was required to provide a certificate from the county agent stating that a certain number of cows of given identification had been mated with a certain sire to produce the calves on exhibit. The breeder of the sire shared in the awards as well as the breeder of the calves. This first year eight entries were exhibited and five sires represented. The class attracted considerable attention on the part of both commercial men and breeders of registered cattle. Based on this interest and the number of eligible herds, we expect a substantial increase in number of exhibits in the 10 head get of sire class at the 1940 State Fair. One of the limiting factors in the development of this class is the necessity of planning about one year in advance to be sure of breeding records.

Swine--This year 12 swine breeders are cooperating with the Extension Service in obtaining individual performance records on breeding hogs. A card, maintained for each breeding sow, provides essential data as to pigs farrowed and weaned, weaning weights of litters, weight and age of animals from each litter which are marketed for pork or sold as breeding stock, and weight at six months of age of all those retained for breeding purposes. In most instances more than one boar is involved and summary cards are provided for recording the records of litters according to sire.

Sheep--Three cooperators are keeping individual performance

records on breeding sheep. A card for each ewe shows the record of both lamb and fleece production. Individual samples of wool are taken at shearing time for grading and scouring tests at the University wool laboratory. The Animal Husbandry Division has placed five rams from the University flock with the cooperators. This has promoted interest in the individual performance records and at the same time has served to obtain more information on the breeding qualities of the University flock.

A few of the problems and weaknesses in our individual performance record project may be cited as follows:

(1) Unusual care is necessary in the selection of a cooperator who can and will follow through the details and who appreciates the main objective of the project.

(2) It is important that all concerned recognize that several years' records are necessary before any very reliable data can be shown on any herd or flock. One year's records may be very misleading.

(3) Frequent follow-up is necessary on the part of the county agent to see that the data are properly recorded at the right time. Considerable clerical work is required in making summaries, which so far is done by the extension office.

(4) Finally we are still not certain as to how much detailed information is necessary or desirable to obtain and we do not exactly know how properly to weigh the data in reaching correct conclusions. We hope and expect, however, that another year's experience will help us more clearly to see the possibilities and limitations and subsequently aid in better planning of this project.

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AMERICAN SOCIETY OF ANIMAL PRODUCTION

The regular annual meeting of the American Society of Animal Production will be held in Chicago, December 1-3, 1939, at the Sherman Hotel. These dates come at the opening of the International Live Stock Exposition in the same city.

The sessions of the extension section of the Society, of which L. P. McCann of Ohio is chairman, and Paul F. Newell of Mississippi is secretary, will come on Friday, December 1. A splendid program has been arranged and it is hoped that a large representation of extension animal husbandmen will be in attendance.

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PERSONNEL ITEMS

Arkansas

W. R. Horlacher, formerly head of the Animal Husbandry Department at the University of Arkansas, was made dean of the College of Agriculture and Director of the Experiment Station and of the Extension Service at the same institution, to succeed Dan T. Gray, on July 1, 1939.

Illinois

W. E. Carroll, chief in swine husbandry at the University of Illinois and formerly with the Utah Agricultural College, was made head of the Animal Husbandry Department at the former institution to succeed H. P. Rusk who became dean and director on September 1. Dr. Carroll was succeeded by B. W. Fairbanks who at one time was extension animal husbandman at the Colorado Agricultural College.

Indiana

J. H. Skinner, who for many years was dean of the College of Agriculture and director of the Experiment Station and of the extension service at Purdue University, retired on July 1 and was succeeded by Harry J. Reed.

Iowa

Wayne C. Jackson, an animal husbandry graduate of Iowa State College has been appointed field representative of the Iowa Horse and Mule Breeders' Association to succeed Harry D. Linn who resigned to become assistant secretary of agriculture of Iowa.

Maryland

Joseph M. Vial, extension animal husbandman, with the University of Maryland, appeared on the farm and home program at Massachusetts State College on July 28 and discussed the topic, "Livestock Adjustment to Meet Present Trends."

Minnesota

H. G. Zavoral, extension animal husbandman with the University of Minnesota, attended the swine-type conference and judging school held at Carrollton, Ill., May 25-27.

Ohio

L. P. McCann, extension animal husbandman, attended the draft horse judging school and demonstration held at Carmel, Ind., in June.

Tennessee

Paul P. Hite, a graduate of the University of Tennessee and prominent sheep breeder was appointed assistant specialist in sheep husbandry on July 1, 1939, to fill the vacancy created by the resignation of C. C. Flanery last year.

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INDIANA'S GOLD MEDAL CALF CLUB

By P. T. Brown, Extension Animal Husbandman,
Purdue University.

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With the close of this fall's show season, Indiana will have completed three years' work on the new beef cattle improvement project called the Hoosier Gold Medal Calf Club.

Started in January 1937 for the purpose of stimulating improvement in the methods of feeding and developing home-raised beef calves, especially to increase interest in high-quality herd bulls, this adult project has shown a very satisfactory growth.

The first year there were 203 farmers in 21 counties who nominated 587 calves. They also nominated 60 of their herd bulls for competition in the get-of-sire classes. That year there were 15 counties that completed the project by holding county Gold Medal calf shows in which 175 calves competed with each other for medal awards.

In 1938 (the second year of the project) there were 214 farmers in 25 different counties who nominated 725 calves. They also nominated 54 herd bulls for the get-of-sire classes. Fifteen of the counties held shows that fall with 197 different calves competing.

By January 1939, when the third year's nominations were taken, interest in the new project had reached a high point. When the entries were totaled up it was found that 404 farmers from 31 counties had nominated 1224 calves. This was an increase of 68 percent over the previous year's record. There were also 95 herd bulls nominated for competition in the get-of-sire classes. This was an increase of 76 percent over the previous year.

The records of the 1939 club are not yet completed. However, some 20 different counties have held or are holding Gold Medal calf shows and the interest and enthusiasm of beef cattle breeders is definitely on the "up and up."

A distinct feature of the work this year has been the development of the idea of district shows. We have held one such show and consider it very successful.

This show was held in the southern part of the State where four good beef cattle counties -- Daviess, Martin, Lawrence, and

Washington -- decided to bring together all their calves that had made the required gains. The show was sponsored by the agricultural department of the Baltimore & Ohio Railroad and was held at Shoals in Martin County on August 5th.

In this show 93 calves were exhibited, of which 42 were Angus, 34 Herefords, and 17 Shorthorns. The Angus entries consisted of 9 bulls, 9 heifers, and 24 steers shown in three classes. The Herefords had a class of 7 bulls, a class of 6 heifers, and another of 21 steers. There were two classes of Shorthorns; namely, 5 heifers and 21 steers. The champion steer was an Angus and the reserve champion was a Shorthorn.

As a fitting climax to this all-day show, a get-of-sire class was judged. It contained 12 "gets" of three calves each, with all breeds competing. The winning get was by an Angus bull.

Attendance at this show came from a wide area and the reaction was quite favorable. Owners of several of the winners made entries at the State Fair. Some of the young bulls were bought for herd bulls. Considerable enthusiasm was in evidence. Our experiences with this show indicate that district shows may continue to develop.

The condition that prompted the organization of this project in 1937 was the apparent need for improvement in our beef breeding herds -- both grade and purebred. Cattle breeders requested that some form of cattle improvement project be launched. In a conference they expressed the opinion that the proposed project should deal particularly with the owners of purebred herds. It was their opinion that the most direct way to improve the grade herds of the State was to improve the purebred herds from which the grade herd owners purchased bulls. Consequently, the Gold Medal Calf Club, sponsored cooperatively by the Purdue Extension Service and the Indiana Livestock Breeders' Association, was set up.

Results of the three years' work indicate that the project is beginning to influence definitely the beef cattle breeding business of the State.

For instance, one of the important rules of the club requires that calves, in order to be eligible to show, must have made an official weight equal to two pounds per day plus an estimated birth weight of 70 pounds. For example, a bull or steer calf that happens to be exactly 400 days old when the official weight is taken in July must weigh at least 800 pounds (two pounds per day) plus the birth weight of 70 pounds or a total of 870 pounds. Many calves each year are ineligible for the show because they have not made sufficient

gains. This rule, therefore, emphasizes the first fundamental of profitable beef cattle production; namely, good gaining ability. The evident result of this requirement has been to center the attention of farmers upon better feeding methods and to prize more highly those cattle that make economical gains. It has also raised some discussion as to the relationship of present-day type to gaining ability. Another question frequently discussed is the part played by heredity in the question of gaining ability.

Another important rule of the club is that the animals which have made their gains must then compete with one another in the show ring for their medal awards. The immediate effect of these shows has been to glorify the bulls whose calves can win. In several counties obscure bulls have clearly demonstrated their ability to sire good gaining calves that can also win in hot competition.

In order to permit the fullest possible demonstration of the breeding abilities of the various herd bulls of a county, there is a get-of-sire class in the county show. Three calves constitute one "get" and there must be at least four "gets" in such a class. The keen competition thus set up has very definitely centered the attention of cattle breeders upon the importance of good bulls in any program of cattle improvement.

There has been much talk of late in the agricultural press regarding the need for a method of measuring the breeding abilities of beef bulls. Indiana cattle breeders do not consider that this project accurately meets that need, but they do accept the records of the Gold Medal Calf Club as a good general index for rating their bulls. Breeders eagerly participate in the club and its shows because they want to demonstrate the breeding abilities of their herd bulls.

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NO PROFIT

Profits aren't needed to make some men work hard. Maybe most men!

Dorset, Niles and McBryde - the men who discovered how to control hog cholera - saved one hundred million hogs for the Cornbelt.

They didn't get a nickel profit for it. They received only their very moderate pay as workers for the United States Department of Agriculture. And they would have got that anyway.

Dorset patented the process - just to make sure nobody else tried for a monopoly - and then gave the patent to the nation.

(From April 22, 1939 issue of Wallace's Farmer & Iowa Homestead)

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APPROACH IS VITAL IN EXTENSION PRACTICE

By Paul F. Newell, Extension Animal Husbandman,
Mississippi State College.

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Every animal husbandry specialist doubtless has well-matured ideas about what an effective State livestock program should be. Each has definite notions about local, area, or State-wide problems and their solutions, but all of us, I think realize that between this knowledge of the problems and the culmination of the job, there is a big gap.

How to get desired programs under way and keep them going effectively has and will command our best efforts. Devising a workable approach, setting up a vehicle for getting a plan in operation, getting the program "hitched" to something the farmer wants, or is interested in, are different ways of stating a practical problem involved in effective extension programs. A brief summary of some plans used in Mississippi will indicate effective methods used in our State. Each State, it is realized, will present different situations.

Our beef cattle enterprise is more or less circumscribed by type-of-farming areas. The usual program, carried along in the usual way has made progress, but it was through a circuit of four spring shows receiving partial State support that farmers were really made mass conscious of the need for better bulls, the necessity for culling, pasture improvement, greater feed production and improved management practices.

The "heart" of these shows has been and is the junior departments. They get the interest through their entries and team participation and hold it while the shows are built around them. The classifications are made up to conform to the type of livestock enterprises adapted to the producing areas and include both breeding and commercial classes. Both registered and commercial lots are shown and sold at each show. Excellent progress is being made by way of improving cattle quality and increasing income. These shows have been important vehicles in getting our cattle improvement program tied in with farm and range practice.

A brief summary for the 1939 spring shows will help to tell the story of their effectiveness.

This spring the shows were attended by 37,000 farmers. Thirty-seven general livestock judging teams participated. The class of exhibits and the number of species and total sales are shown as follows:

Total Livestock Exhibited		Exhibited by juniors	Total sales	Junior sales
Kind	Number	Number		
Beef cattle....	1,943	373	$85,113.88	$24,654.36
Hogs.....	395	321	-----	-----
Workstock.....	184	17	-----	-----
Sheep.....	51	12	-----	-----

Some of the boys who have fed baby beeves are now getting small commercial or registered breeding herds started in partnership with their fathers.

While the spring shows have been exceptionally effective they do not complete a desired program for cattlemen. They have contributed to and indicated the need for, another service - a feeder cattle marketing plan. This need has resulted in the organization by cattlemen and county agents of a 10-county feeder calf sale through which approximately 1500 selected steer calves will be graded and sold this fall. Excellent educational advantages will be obtained through the grading plan to be used and the market outlet for cattle will be broadened. Two additional sales will probably be organized for the fall of 1940 to service other major producing areas.

Our hog program has long leaned heavily on junior participation through the various pig club demonstrations.

Sheep work until recently has been somewhat neglected due to a lack of time, but we determined this spring to stimulate interest in this phase. Shearing demonstrations and wool pools were the vehicles used with good results. Three shearing demonstrations attracted 24 county and assistant agents and 300 sheep growers. Three wool pools this spring totaled nearly 154,000 pounds, which sold at an average of 27 1/2 cents for clear wool, while the farm price had been 6 to 10 cents less.

Plans are now in the making for an additional wool pool and at least one cooperative area lamb sale. These activities have stimulated interest in better rams and improved management of farm flocks.

Ice plants helped us to get a farm meat program organized several years ago. The curing work they did was the inspiration for the construction in 1936 of 11 cooperative plants. Forty-five curing plants handled more than 2,000,000 pounds of pork last season for 12,000 farmers and their work has indirectly greatly improved the curing methods which farmers use, who cure their meat on the farm.

Colt shows, supported by local business interests aided greatly in the development of workstock production and management programs. Bot campaigns in which county agents and veterinarians cooperated were valuable also. One county has increased annual colt production from

10 to 800 colts in a period of 8 years, largely with a well-organized workstock show, which has the backing of all business interests as well as the board of supervisors.

The need for increasing the quality of forage for livestock whether it be harvested roughage or pasture, is a problem in all States. Quantity or total supply is a problem in many States. Our livestock-forage schools are of excellent value to us in developing a forage-livestock consciousness among farmers who have in the past been largely cotton producers. Four forage schools arranged jointly by extension and station workers in which agronomy, animal and dairy husbandry, and agricultural engineering divisions cooperate, are held each year to which county agents and farmer forage committees from all counties are invited. The programs in each instance this year ran two days. Half-day programs each for hay, silage, and pastures were given at each school. Subject matter and method technique were presented, when possible, by demonstrations. Sixty-five county agents from a total of 82, twenty assistant agents, one-half the total number, along with 600 key farmers attended these four schools. Tentative plans call for 7 or 8 one-day schools next year to reduce travel by agents and farmers.

We think a five-year program along this line will result in permanent livestock improvement.

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WESTERN REGIONAL "SOCIETY" MEETING

The western section of the American Society of Animal Production met at Davis, Calif., July 27-28 with Julius E. Nordby, chairman, presiding. Seven States were represented in the attendance and a splendid program was presented. L. H. Rochford and D. T. Batchelder of California, R. G. Johnson, Jr., of Oregon, C. D. Lowe of the U.S.D.A., and several California county agents were the extension workers attending.

Jerry Sotola of Washington and R. T. Clark of Montana were elected chairman and secretary, respectively, for the ensuing year.

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GRADING THE PRODUCT

In a moment of candor a biologist, Mark Graubard, has written: "The grandeur of applying mathematical complexities seems to give many people the impression that difficult problems are being solved, while the accompanying exuberance causes them to overlook the fact that the mathematical reasoning involved is neither operationally sound nor fruitful." In other words if you put inferior material into your mathematical sausage machine you get as a final product not T-bone steak but low-grade hot dogs. * * * --T. Swann Harding.

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OUR LIVESTOCK IMPROVEMENT ORGANIZATIONS

By G. A. McDonald, Extension Animal Husbandman,
South Dakota State College.

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The organization of 19 county livestock improvement associations in South Dakota is unquestionably our outstanding accomplishment of the past year. Through these county associations we know by experience that we may expect the greatest improvement in type and quality of sires used and the greatest advancement in methods of livestock production and feeding. The organization of county livestock improvement committees and associations constitutes an important step in the State livestock extension program, which has for its motto "Quality livestock," and for its goal, "A purebred, high-quality sire at the head of each herd in the State."

At present South Dakota has 58 county extension agents in 61 counties. Twenty agents have either an organized county livestock improvement committee or a county livestock association. More and more interest is being shown by local stockmen throughout the State in the possibilities of improvement in the market value of their livestock through the services rendered by an organized group of their own members. We believe that the majority of counties will set up organizations during the coming fall and winter months. This trend is natural when it is considered that South Dakota receives 75 percent of its farm income from livestock and livestock products.

The county livestock improvement associations generally adopt a constitution and by-laws, elect officers and an executive committee and set up a definite program of work. The county extension agent acts as secretary; otherwise, members in all livestock improvement committees or associations must be active livestock farmers or ranchers. Most groups also include as associate members individuals such as bankers, livestock dealers, packers and others interested in the production, feeding or marketing of livestock, but who are not actually livestock producers. Associate members, however, do not have a vote in the organization.

The executive committee in an eastern county of diversified livestock production, consists of representative breeders of cattle, hogs, horses, and sheep. In western South Dakota which is the range area, the executive committee would consist of typical cattle or sheep producers. Meetings are held and the major county livestock problems are discussed. Methods of solving these problems or ways of improving the local livestock situation are discussed and a year's program of work developed. This livestock program is generally

divided into livestock improvement, production, feeding and marketing. Quite often the committee sets up a long time livestock program, covering a period of 10 or 15 years.

We find that livestock men receive numerous benefits from a county livestock improvement association. For example, a livestock protective association was organized in Ziebach County, which is in the western part of the State, the past year which has been instrumental in curbing livestock thievery. This county association was also of considerable assistance to the State legislative committee in passing a State law controlling and preventing livestock larceny.

Livestock associations in Potter, Fall River, Jackson, and Washabaugh counties have been successful in organizing cooperative grazing associations. Additional grazing associations will be set up in Hyde, Perkins, and Corson counties in the near future. The organization of these cooperative grazing associations in a range county give lower pasture and hay leases to cooperating ranchers and enables them to plan a long time livestock program because of the assurance of feed and range protection. Deferred grazing, pasture rotation and the establishment of grazing quotas set up according to the carrying capacity of the range also directly aid the rancher. Quite often these ranchers buy fence, salt and miscellaneous equipment cooperatively and thereby effect a saving in the cost of such items.

Most county livestock associations sponsor displays of purebred stock, hold judging events, grading demonstrations, sire exchange days, prepare livestock exchange lists, sponsor feeding or livestock management schools, conduct county livestock tours and are responsible for other services in production and marketing which act as direct benefits to the individual livestock producer or feeder within the county. The extension animal husbandman works closely with the various livestock groups in planning and conducting these educational events.

The South Dakota State Livestock Committee, consisting for the most part of influential producers of cattle, sheep, hogs, and horses, has served the livestock interests of the State for the past four or five years. Through the efforts of this committee South Dakota became accredited for tuberculosis; animal disease protection was provided through the organization of a State Livestock Sanitary Board; the stallion enrollment law has been improved; considerable work has been done toward obtaining a predatory animal law and numerous other activities have been performed of direct benefit to the livestock producer.

The annual meeting of the State Livestock Committee is held during "The Stockmen's Roundup" at Brookings each year which is a part of the annual State College Farm and Home Week. Action will be taken this fall to connect the county livestock improvement associations to the State Livestock Committee. The association of county livestock groups with the State Livestock Committee will strengthen the work of the State organization and give better representation.

A State program of livestock improvement can be made more effective where it is possible to take each respective practice directly to the individual grower, and where the growers work with one another toward a common goal. The organization of county livestock improvement associations seems indispensable to the future welfare of the industry in South Dakota and it is believed that 90 percent of the counties will be represented with some type of an organized livestock group within the next year.

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NUMBER OF FREEZER LOCKER PLANTS IN UNITED STATES

Eighteen hundred and sixty-one locker plants in 38 States were counted by the State extension workers in July 1939. This compares with 1,269 plants in 33 States as reported by these same organizations one year ago.

This is not an absolute census but is believed to reflect the general situation and the 12 months' growth. Seventy-seven percent of the plants were listed as operating in connection with some other business. Ten percent of them were cooperative. The count by States as sent in to K. F. Warner of this office, follows:

Alabama 2	Maine 0	Ohio 32
Arizona 1	Maryland 2	Oklahoma 25
Arkansas 3	Massachusetts ...0	Oregon 160
California 22	Michigan 15	Pennsylvania 20
Colorado 33	Minnesota 179	Rhode Island 0
Connecticut 0	Mississippi 1	South Carolina 0
Delaware 2	Missouri 13	South Dakota 34
Florida 1	Montana 15	Tennessee 12
Georgia 2	Nebraska 130	Texas 20
Idaho 85	Nevada 0	Utah 15
Illinois 113	New Hampshire ...0	Vermont 1
Indiana 9	New Jersey 1	Virginia 3
Iowa 350	New Mexico 0	Washington 260
Kansas 95	New York 12	West Virginia 1
Kentucky 0	North Carolina ..3	Wisconsin 153
Louisiana 0	North Dakota ...25	Wyoming 11

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RAM SALES IN MISSOURI

By T. A. Ewing, Extension Animal Husbandman,
Missouri College of Agriculture.

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The annual series of ram sales is now under way in Missouri. This is the thirteenth year that such sales have been sponsored by the Missouri Agricultural Extension Service, and through these sales several hundreds of sheep raisers have been enabled to purchase pure-bred rams and thus improve their flocks. The history of these sales shows why they were started and gives an idea of their popularity through the years.

In 1913, the Missouri Agricultural Experiment Station concluded tests and released information which showed that lambs sired by a good registered ram were worth $1.75 more per head than lambs out of the same kind of ewes but sired by a grade ram. Later results at the Oklahoma A. and M. College and on Missouri farms indicated that the difference often was as much as $1.95 to $2.56 in favor of the lambs sired by the registered ram.

In 1926, even though this information had been available for 13 years, many farmers were still not using good registered rams. At that time, the animal husbandry project of the Missouri extension service, under the leadership of J. W. Burch, set out to show the value of the use of better rams. Meetings were held at which registered and grade rams, along with lambs sired by them, were shown. However, a large number of sheep raisers still continued to use grade rams because registered rams were not easily available. In order that good rams might be more readily available, a sale of registered rams was decided upon as a means of enabling farmers to see a group of rams from which they could select a ram best suited to their individual needs.

This first sale was held in Monroe County in that year, 1926. At that sale, 33 Hampshire and Shropshire rams were sold. Thus, the sale idea began, and through the years this means of bringing good registered rams before the public has increased in popularity. The peak year was 1937 when 728 rams were sold at auction in 20 sales. In 1938, fewer sales were held and a smaller number of rams sold.

This year, as in past years, the extension animal husbandmen inspected the animals to be sold. In their work, they have the privilege of rejecting rams which are not acceptable in type, condition, size, etc. Then, the breeders take the animals to the sale, they are assigned, and the transaction is between the breeder and

the buyer. The animals for this year's sales have been chosen from such widely distant points as Cronogo in Jasper County to Memphis in Scotland County.

In an effort to bring about the production of the best possible type of rams in the State, the extension animal husbandmen of the College have been holding meetings with breeders of purebred sheep in order to help them acquire a better knowledge of what a good ram should be like, and what production methods will result in such a ram. Breeders bring their stud rams and some yearlings to these meetings and the good and bad points of the animals are discussed. In the discussion, emphasis is placed on the fact that a knowledge of type and blood lines, and how to intermingle blood lines, are of great importance in producing the highest type of rams. Also important are feeding and care in order that the rams will be full grown for their age and in good health.

The reason for holding the meetings with the breeders of registered sheep is that owners of grade sheep have progressed more rapidly than many owners of registered sheep.

Too many owners of registered sheep do not have in mind a definite type or, worse still, what constitutes a good stud ram from the standpoint of symmetry and balance, masculinity, constitution, compactness, bone, thickness and evenness of fleshing, breed character, etc. Some of the better breeders have been outspoken in their approval of the teaching value of such meetings. The end result should be a more uniform lot of Shropshire and Hampshire rams in Missouri.

The 1939 series of ram sales got under way at Lebanon, Tuesday, July 25, and will end at Lancaster on August 28. The remainder of the sales were scheduled as follows: July 26, Springfield; July 31, Edina; August 1, Linn; August 2, Fredericktown; August 3, West Plains; August 7, Maryville; August 8, Trenton; August 9, Cameron; August 10, Appleton City; August 11, Montgomery City; August 12, Fayette; August 26, Paris; September 9, Milan. 609 rams were offered for sale, about equally divided between Shropshires and Hampshires, practically all yearlings, and a few two-year-olds.

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"While many of the oldest traditions and institutions of society are as vital now as ever, each of us is called upon sooner or later to seek new campfires, new ways, new customs, new conditions. The wise ones move with the general advance. There is no turning back. For thousands of years men have passed from the embers of one out-moded fire to the warmth of another. Progress is possible in no other way." --Caleb.

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THE SHEEP INDUSTRY IN IDAHO

By E. F. Rinehart, Extension Animal Husbandman,
University of Idaho.

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Idaho has both a range and farm sheep industry. The most extensive is the range industry where bands of some 1,200 ewes and their lambs are run on open range and in the National Forests during the spring and summer and pastured and fed hay on irrigated ranches during the winter. The range sheep industry follows two definite lines, a system of shed lambing throughout the lower altitudes of the State and of range lambing throughout the higher altitudes. Both systems base their operation upon the production of wool and lambs rather than the production of ewes and wethers for market.

Shed lambing is practiced extensively throughout the southwestern section of the State. The winters are generally mild and open, with much sunshine. In the irrigated sections of the Snake River and tributaries, hay and the small grains are produced in abundance and prices are comparatively low. The spring ranges are characterized by numerous varieties of grasses and quick growing, early maturing plants that are nutritious and produce rapid gains. Grazing on the lower plains, foothills and lower mountains is good up to the first of July when the water supply begins to fail and the range plants mature and die. By having the lambs well started by the time the range feed is ready, market lambs of good weight and finish are produced by this system. In this section, the ewes are mostly white-faced crossbreds, consisting of the Rambouillet-long wool cross of the type known as Panamas or Columbias. The rams in general use are black faces, either Hampshires or Suffolks and the entire lamb crop, both ewes and wethers is sent to market. In a normal year, practically all the shed lambs sell as top market lambs. In 1938, when the range conditions were good, 85 percent of those shipped sold as top market lambs. Most of those cut back consisted of twins and sold as feeders, less than 2 percent selling as seconds or culls. But few outfits in this section use white-faced rams. When the last lamb shipment is made, the ewes that show spreading or broken front teeth are sorted out and sold as not being profitable to run on the range another season.

In the higher altitudes where the winters are longer and more severe, the lambs are born on the range during April and May. The early ranges of the sagebrush plains are good until July 1st but the higher mountain ranges are good all summer. Depending upon the location and range conditions, lambs are produced either for the slaughter

or the feeder market. In this section, the rams used consist of Rambouillets, Lincolns, Panamas, Columbias, and Corriedales. From these crosses, the ewe lambs are retained for replacement purposes or for sale to sheep outfits in the early lambing districts, while the wether lambs are sold as feeders. Because of the fact that the strongest feeder demand is for black faces, some outfits use Hampshire and Suffolk rams on part of their ewes and breed the white faced rams only to selected bands of good big, strong, heavy-shearing ewes.

The farm sheep industry in Idaho varies but little from the range. The majority of the farm flocks consist of white-faced cross-bred ewes, bred to black-faced rams. Most of the farm flocks are shed lambed. As the lambs become fat, they are sorted on the farms and sent to market by cooperative livestock shipping associations. Because of the fact that they are kept in, the ranch lambs are usually ready to market before the range lambs, the majority from the low altitudes having been shipped before the 20th of June.

During the last two years from all sections to the East have come inquiries from extension animal husbandmen, county agents, future farmers and individuals who desire to come to Idaho and purchase good young ewes in from one to ten carload lots. The majority of these requests are for assistance in locating black-faced ewes. The Idaho sheep industry is conducted for the purpose of producing wool and lambs but not ewes. A good early black-faced ewe lamb will sell for as much on the open market as the yearling ewe to a prospective breeder. The market for lambs is established and they can be sold at any time they are ready. On the other hand, the open market is a disappointing place for the shipping of yearling ewes and wethers. For this reason, while it is possible to go out and locate a million or more black-faced lambs, it is almost impossible to locate black-faced yearling ewes in carload lots. The black-faced ewes maintained are mostly pure-bred Hampshires and Suffolks kept for the purpose of raising mutton rams.

As all sections do not raise their replacement ewes, there are always some white-faced yearling ewes that can be located. This year the local demand has been strong with prices ranging mostly from $8.00 to $8.50 with some especially large, strong, heavy-shearing, yearling ewes selling as high as $9.00 per head. The local demand has been strong enough to take practically the entire supply.

The only ewes that are available for sale in large numbers every year are those which show signs of failing front teeth. Some of the range feed is short and unless the front teeth are good, the sheep cannot thrive on the range. In some sections, where the sheep graze on short feed on sandy and gravelly ranges, the front teeth wear down

and break off at an early age. All of these ewes are white faces, some large smooth rambouillets, some crossbreds of the Panama and Columbia type, and some of the quarter-bloods of the type known as Targhees. Idaho ranchmen who make the practice of buying old ewes, either for fattening or lambing out, classify the old ewes as one-year breeders and feeder ewes. The one-year breeders are strong and vigorous and have good udders and when given proper rations and care will raise a good lamb crop. The feeder ewes may be strong and vigorous but have spoiled udders or may not show enough thrift and vigor to be kept through another lambing period; hence are finished for market in the feed lot.

Black-faced ewes can be purchased in large numbers only as ewe lambs. They will be only half bloods, sired by good purebred Hampshire or Suffolk rams out of white-faced ewes. They will be heavy shearing and of a type that meets favor on the market.

The Idaho Wool Growers Association and the Idaho extension division regret that it is impossible to take care of the numerous requests to locate large numbers of young ewes. While Idaho produces and markets lambs and old ewes in excess of two million head per year, it is on the basis of fat and feeder lambs but not the production of black-faced ewes or of white-faced ewes in excess of the anticipated needs for replacement of the ewes discarded from the range bands. This number averages 20 percent of the ewe population per year.

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"We enrich men when we help them to see and to understand the world in which they live. A man has wealth when he has the love of family, friends, the respect of his neighbors, the admiration of his colleagues." —C. B. Smith.

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NEGRO BABY BEEF WORK

For the second year Negro club boys and girls fed out feeder calves. In October, 51 calves were placed with club members and on November 13, thirteen more were placed, making a total of 64 head. These calves were distributed in 11 different counties.

The total cost of these 64 calves including $1 per head for insurance and transportation expenses amounted to $2,424.19. The total weight when purchased was 30,534 pounds. The total weight when sold was 39,159 pounds; and the total amount received for the calves including prizes was $3,277.83. The difference left after paying for the calves, insurance, etc., was $853.64. Two hundred forty dollars were received as prizes.

It may be stated that the greater profit was that of education received on the part of the club members to feed out properly a fat calf.

(From Georgia Annual Report, 1938.)

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BEEF CATTLE IMPROVEMENT IN KENTUCKY

By Wayland Rhoads, Field Agent in Animal Husbandry,
University of Kentucky.

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There has been a marked improvement in the beef cattle industry in Kentucky during the last twenty years. This improvement has taken place in breeding, feeding, and management. The number of cattle in the State has increased very materially. The U. S. Department of Agriculture has indirectly been responsible for much of the improvement in beef cattle breeding. This is due to the Better Sires--Better Stock program which was started by the Department about 20 years ago.

A survey of the beef bulls in use in Kentucky in 1919 showed that only about 15 percent were of pure breeding. After doing some work that year along improvement lines some grades and scrub bulls were eliminated and purebreds put in their place. The following year about 19 percent of the beef bulls in use were of pure breeding. In 1920 we heard of the Better Sires--Better Stock movement which was being fostered by the U. S. Department of Agriculture. We were impressed with its possibilities and decided to cooperate. However, we had been working towards better livestock for many years. At that time we started enrolling people to use only purebred sires in all classes of livestock. For the next four years this work gradually progressed. Purebred sires of all types were more in demand.

It was about then that D. S. Burch of the Bureau of Animal Industry, told us that the Farm Journal of Philadelphia had offered a banner to the first county in the United States to eliminate all grade and scrub bulls. This furnished an added appeal. Much improvement had been made in several of our counties but at that time Union County had over 500 farmers enrolled who had agreed to use purebred sires in all classes of livestock produced. We decided that this county could reach the goal of 100 percent in the use of purebred bulls if a special effort was made. A survey showed that there were 130 purebred bulls and 22 grade and scrub bulls in the county. Since the sentiment was already in favor of the purebreds it was not difficult to get the 22 men who owned grades and scrubs to agree to get rid of them and purchase purebreds in their place. This was accomplished in April, 1926. At that time there were 140 purebred bulls and no scrubs or grades in the county. This county was rechecked twice to be sure that it was fully 100 percent. The U. S. Department of Agriculture then certified the statement that Union County, Kentucky, was the first county in the United States to be 100 percent in the use of purebred bulls. The

following year two other counties in Kentucky, Taylor and Russell, accomplished the same feat. There are many other counties which are now nearly 100 percent in the use of purebred bulls.

A survey this past year for the State as a whole shows that over 65 percent of the bulls in use are of pure breeding. If it had not been for the Better Sires--Better Stock movement which was promoted by the U. S. Department of Agriculture, I feel sure that we would not have made the progress in livestock breeding which we have.

Many agencies have helped in promoting better livestock in Kentucky. The breeders themselves have helped very materially. Banks, stockyards, railroads, fairs, civic clubs, farm bureaus and other organizations have all aided in the movement. At present we have enough purebred herds in the State to more than supply all of the purebred bulls needed for the State. Nearly one-half of the annual crop of purebreds in Kentucky are fed out as steers.

The Louisville Fat Stock Show has been in operation since 1922. The first year about 125 cattle were shown. Now the average number of finished cattle will range from 1500 to 2000. The top 20 car lots in the show will now average better in quality than the prize winning car of 1922. The first year of the show most of the cattle were bought as feeders. At present nearly all of the cattle shown are home-raised. The show has caused many new herds of purebred beef cattle to be established in the State.

The AAA program has aided in making more hay and pasture available. Kentucky has increased livestock numbers as well as quality about as fast as pasture has been increased. At present the pasture is slightly ahead of livestock numbers. I believe it should remain this way.

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TENNESSEE RAM SALES

A total of 223 purebred Southdown and Hampshire rams, selected from local breeders' flocks, were sold in a series of four sales held at Bristol, Knoxville, Nashville and Union City this past summer. The average sale price was $37.50 per head.

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LEADERSHIP

Leadership is that Art, or Science, or Gift, by which a man is enabled and privileged to direct the Thoughts, Plans, and Actions of his fellow-men, by honorable and legitimate means, for noble and altruistic ends. --Frederick Ellsworth Wolf.

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RECENT PUBLICATIONS

(This list is limited to publications of interest to extension workers. In most cases copies are available from the institution or agency issuing them. Do not write Washington for other than U.S.D.A. publications.)

Federal

"Planning for a Permanent Agriculture" (Prepared for community and county land use program planning committees) - U.S.D.A., Washington, D.C. - June 1939, pp. 71.

"Silos - Types and Construction" by J. R. McCalmont, Bureau of Agricultural Chemistry and Engineering, U.S.D.A., Washington, D.C. - Farmers' Bulletin 1820.

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"The Feed Situation" - Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - Aug. 1939, pp. 36 (20 tables), Mimeo.

"Wintering Steers on Different Planes of Nutrition from Weaning to 2-1/2 Years of Age" by W. H. Black, et al, Bureau of Animal Industry, U.S.D.A., Washington, D.C. - Tech. Bull. 667, Feb. 1939, pp. 20.

"Cold-Storage Lockers for Preserving Farm-Dressed Meat" by K. F. Warner, Bureau of Animal Industry, U.S.D.A., Washington, D.C. - A.H.D. No. 16, revised, July 1939, pp. 19, Mimeo.

"Statistical Results of Cooperative Extension Work, 1938" by M. C. Wilson, Extension Service, U.S.D.A., Washington, D. C. - Extension Service Circular 309, May 1939, pp. 22.

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"Two Trends of Great Agricultural Significance" by O. E. Baker, Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - Extension Service Circular 306, June 1939, pp. 25, figs. 16.

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"Improving Beef Cattle Pastures on Rice Lands" by Chas. I. Bray - Louisiana Experiment Station Bulletin 305, March 1939, pp. 14.

"Grass and Legume Silage" by Richard F. Talbot - Maine Extension Service Bulletin 260, April 1939, pp. 10.

"The Electric Fence and Pasture Management" by M.G. Huber and R.F. Talbot - Maine Extension Service Bulletin 261, April 1939, pp. 12.

"Haying in the Rain - A Study of Grass Silage" by J.G. Archibald and C.H. Parsons - Massachusetts Experiment Station Bulletin 362, April 1939, pp. 19.

"4-H Sheep Club Manual " by Nevels Pearson, et al, Michigan Extension Service Bulletin 38, May 1939, pp. 63, illus.

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"Death and Crippling in Livestock Marketing" by A.A. Dowell and R.J. Eggert - Minnesota Experiment Station Bulletin 342, May 1939, pp. 40.

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